

Park & Ride Access

How can we maximize efficiency and increase person occupancy at overcrowded park and rides?



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Study Background

Conducted in cooperation with USDOT, WSDOT, KCM and ST in 2013-2014 to examine:

- How and why the busiest park and rides are utilized
- User reactions towards potential strategies for maximizing the efficiency of park and ride lots



Data Collection

On-site audit of 10 of 17 facilities

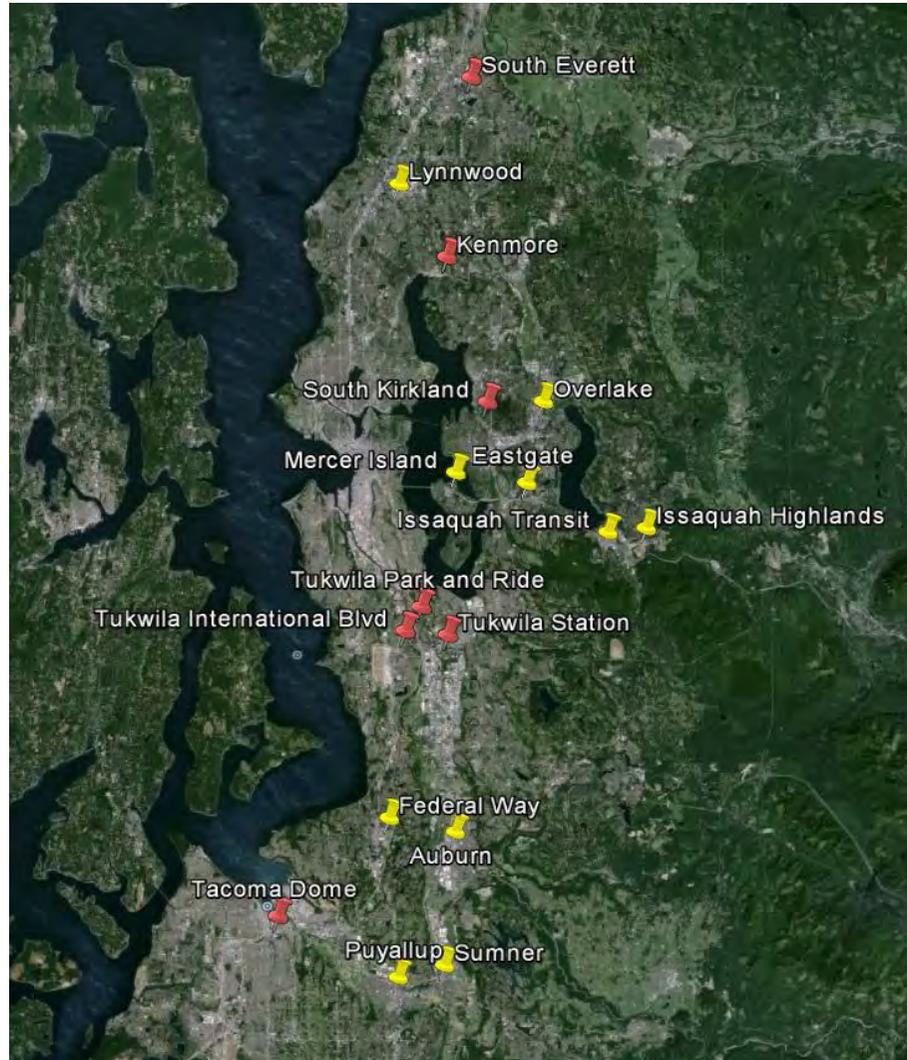
- parking spaces occupied by time of day
- average person occupancy of parking vehicles
- fraction of people parking at the lot for non-transit related reasons
- kiss and ride maneuvers



User intercept survey (both on-site and online) at all 17 lots

- Trip purpose, origins and destinations
- Reasons for using park and ride
- Mode of entry and exit
- User reactions to potential parking management strategies

Data Collection: Park & Ride Locations



On Site Audit Results

- Most lots were at or near 100% capacity
- Overall parking vehicle occupancy was very low with between 1.02 and 1.10 persons per vehicle across the 10 lots
- Little non-transit or non-carpool use observed (except Eastgate)
- Kiss and Ride varied widely by lot

On Site Audit Summary Data

Table 2. Summary of on-site audit data

<i>Lot Name</i>	<i>Day of week audited</i>	<i>Start Time</i>	<i>Lot Filled Time</i>	<i>% Filled</i>	<i>Average Parked Car Occupancy</i>	<i>Fraction of Parking by Fixed Route Transit Users</i>	<i>Kiss-and-Ride Maneuvers Within Parking Area</i>
Auburn	Friday	5:05	n/a (8:30)	85.8%	1.045	96%	8
Eastgate	Wednesday	5:00	n/a (10:00)	90.8%	1.019	96%	125
Federal Way TC	Thursday	5:10	7:45	100.0%	1.102	92%**	50
Issaquah Highlands	Thursday	5:05	9:10	100.0%	1.044	84%	46
Issaquah TC	Friday	5:10	n/a (9:10)	82.3%	1.046	95%	62
Lynnwood TC	Monday	5:15	7:25	100.0%	1.060	88%**	18
Mercer Island	Tuesday	5:00	7:50	100.0%	1.081	95%	74
Overlake TC	Monday	5:00	7:40	100.0%	1.017	99%	47
Puyallup	Tuesday	5:15	5:23	100.0%	n/a	n/a	n/a
Sumner	Wednesday	4:45	5:40	100.0%	1.051	88%**	9

Survey Results

- Trip purpose consistently for work
- Reasons for using lots varied, primarily to save money
- Mode of entry mostly drive alone, followed by bus and drop off
- Mode of exit mostly fixed route transit, followed by walking, carpool, vanpool
- Users willing to carpool, or pay, if parking spaces are guaranteed

Survey Results

Table 5. Trip purpose summary statistics

<i>Trip Purpose</i>	<i>Fraction</i>
Work	94.39%
School	3.23%
Errands	1.22%
Shopping	0.30%
Appointment	0.15%
Other	0.70%

Survey Results

Table 7. Reasons for using park and rides summary statistics

<i>Reasons for Using Park-and-Rides</i>	<i>Fraction that Agreed</i>
No parking at destination	34.9%
Driving too long	44.9%
Environmental reasons	36.1%
To save money	77.1%
Can relax on transit	59.6%

Survey Results

Table 8. Entry mode summary statistics

<i>Mode</i>	<i>Freq. Entering</i>	<i>% Entering</i>
Drive Alone	2,418	73.9%
Walk	156	4.8%
Train	4	0.1%
Vanpool	17	0.5%
Bicycle	26	0.8%
Dropped off	222	6.8%
Carpool	162	5.0%
Bus	257	7.9%
Other	10	0.3%
Total	3,272	100.0%

Table 9. Mode of entry for parking vehicles only, summary statistics

<i>Mode</i>	<i>Freq. Entering</i>	<i>% Entering</i>
SOV	2,418	93.1%
Vanpool	17	0.7%
Carpool	162	6.2%
Total	2,571	100.0%

Survey Results

Users will change behavior for certainty:

- 28% of users are willing to consider carpooling to the lots to obtain a reserved parking space
- 24% of users are willing to consider carpooling to the lots to avoid a parking fee

Users willing to pay:

- 46% for a guaranteed space at the main lot
- 28% for a general parking space at main lot
- 28% for a guaranteed spot a 10-15 minute walk away

Parking Management Strategies

draft **recommendations for further evaluation...**

- Dedicate a portion of parking spaces at each lot for carpool and vanpool vehicle use only
- Implement parking permits that allow park and ride users (especially those in multi-occupant vehicles) to reserve specific parking spaces
- Revise local transit service to increase the fraction of drivers that have feasible transit options to park and rides
- Examine the use of parking at available lots in the vicinity for overflow or SOV parking
- Implement parking fees for single occupant vehicles

Post-study steps

- Shared survey results with regional stakeholders
- Formed agency teams to examine issues
- Further evaluated parking management strategies
- Explored additional data collection efforts and research
- Continued to plan for rising demand for parking because...
 - Regional population and employment have grown
 - Regional transit use has grown
 - Regional parking continues to be constrained

Questions?

For additional information on Park & Ride Access,
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